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EXAMINER

SUN, XIUQIN

ART UNIT PAPER NUMBER

2863

DATE MAILED: 08/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/035,338

Applicant(s)

FOLLIN ET AL.

Examiner

Xiuqin Sun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-24 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-14, 16-19 and 21 is/are rejected.
- 7) ☒ Claim(s) 10, 15 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5-7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 11, 12, 16-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt (U.S. Pat. No. 6556956) in view of Herron et al. (U.S. Pat. No. 6343251) and Pasemann (U.S. Pat. No. 3937934).

Hunt teaches a method and system for remotely monitoring the operation of at least one turbine, the turbine in an operating location, comprising the steps and means of: inputting input data from the turbine (col. 2, lines 38-46 and col. 4, lines 6-20); performing at least one calculation on the input data via a calculation engine to generate performance data (col. 3, lines 17-51); and generating a collection of stored data in a database based on the performance data (col. 4, lines 35-59). Hunt further teaches: a system for remotely monitoring the operation of at least one turbine, the turbine in an operating location, the system comprising: a database for inputting input data from the turbine (col. 4, lines 35-59); and a presentation portion that accesses a data storage portion to display a collection of stored data that is stored in the data storage portion, wherein the stored data is based on at least one of the input data and the stored

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performance data (col. 4, lines 6-20; col. 4, lines 20-34 and col. 4, lines 60-67). Hunt further teaches: said at least one turbine is at least one gas turbine (col. 1, lines 7-33); said at least one turbine is a plurality of turbines (col. 2, lines 25-37);

Hunt does not mention explicitly: generating a collection of stored data in a database based on the raw input data; the step and means of processing the input data to generate verified performance data, the processing including determining validity of the input data via a data validation portion and performing at least one calculation on the input data via a calculation engine, which is valid, to generate the verified performance data; determining the validity of the calculated performance data includes determining a base load condition of the turbine.

Herron et al. disclose a system and method for monitoring gas turbines, and teach the step and means of generating a collection of stored data in a remote database based on the transmitted raw data (col. 5, lines 10-26); and determining the validity of the performance data of a gas turbine by examining a base load condition of the turbine (col. 5, lines 34-47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Herron et al. in the Hunt method in order to more accurately monitor and analyze the performance of the turbines according to the raw operational data collected from the gas turbines (Herron et al., Abstract).

Pasemann disclose a system and method for operating a steam turbine with digital control having validity checked data link with higher level digital control, and teaches the step and means of processing the input data, including determining validity

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of the input data via a data validation portion (see Abstract and col. 24, lines 37-67 and col. 25, lines 1-55).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Pasemann in the Hunt method in order to implement a data validation procedure to assure the availability and good quality of data transmitted from the on-site monitor to the remote central computer for further processing (Pasemann, Abstract and col. 1, lines 45-59).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt in view of Herron et al. and Pasemann.

The combination of Hunt, Herron and Pasemann teaches a method and system that includes the subject matter discussed above. Hunt, Herron et al. and Pasemann do not mention explicitly: said step of processing the input data to generate verified performance data includes determining if input data is available.

It is deemed that it is well known in the art that an action of determining if input data is available can be included in any data processing procedure as a basic step of verifying the validity of the data in question. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include such a step in the combination of Hunt, Herron and Pasemann in order to ensure the input data is not missing or not null so that further processing can be conducted.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt in view of Herron et al. and Pasemann, as applied to claim 1 above, and further in view of Kuhlberg (U.S. Pat. No. 4785403).

The combination of Hunt, Herron and Pasemann teaches a method and system that includes the subject matter discussed above. Hunt, Herron et al. and Pasemann do not mention explicitly: said step of processing the input data to generate verified performance data includes at least one of range checks and cross comparisons on the input data.

Kuhlberg discloses a data validation system and method, and teaches the means and step of range checking and cross comparing the input data (col. 4, lines 32-62).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Kuhlberg in the combination of Hunt, Herron and Pasemann in order to ensure the input data has a reasonable value based on minimum and maximum expected levels, and data does not violate any physical laws (Kuhlberg, col. 4, lines 32-62).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt in view of Herron et al. and Pasemann.

The combination of Hunt, Herron and Pasemann teaches a method and system that includes the subject matter discussed above. Hunt, Herron et al. and Pasemann do not mention explicitly: generating a collection of stored data in a database based on at least one of the input data and the verified performance data includes generating the collection of stored data based only on the input data, if the input data is determined to be not valid.

It would have been obvious to one having ordinary skill in the art at the time the invention was made that, if said input data is not valid, one can not generate the verified

performance data from the raw input data, therefore, generating the collection of stored data will be based only on the input data.

6. Claims 6, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt in view of Herron et al. and Pasemann, as applied to claim 1 above, and further in view of Nigawara et al. (U.S. Pat. No. 5249260).

The combination of Hunt, Herron and Pasemann teaches a method and system that includes the subject matter discussed above. Hunt, Herron et al. and Pasemann do not mention explicitly: processing the input data to generate verified performance data includes: determining the validity of the calculated performance data; and designating valid calculated performance data as verified performance data; wherein determining the validity of the calculated performance data includes performing range checks and cross comparisons on the calculated performance data.

Nigawara et al. disclose a data input system and method for inputting data into a database, and teach the means and step of determining the validity of the input data; and designating valid input data as verified input data and transmit the verified input data into the database (col. 1, lines 63-67; col. 2, lines 1-20 and col. 3, lines 27-44); wherein determining the validity of the input data includes performing range checks and cross comparisons on the input data (col. 3, lines 27-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Nigawara et al. in the combination of Hunt, Herron and Pasemann in order to ensure the integrity and validity of the

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calculated machine performance data before it is ingested into the database or used for further processing (Nigawara et al., col. 1, lines 27-39 and col. 2, lines 44-48).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt in view of Herron et al., Pasemann and Nigawara et al., as applied to claims 1 and 6 above, and further in view of Bernier et al. (U.S. Pat. No. 4215412).

The combination of Hunt, Herron, Pasemann and Nigawara teaches a method and system that includes the subject matter discussed above. Hunt, Herron et al., Pasemann and Nigawara et al. do not mention explicitly: determining the validity of the calculated performance data includes determining a steady state condition of the turbine.

Bernier et al. disclose a real-time gas turbube monitoring system, and teach the means of determining the validity of the performance data by examining a steady state condition of the turbine (col. 12, lines 65-67; col. 13, lines 1-24; col. 14, lines 38-56 and col. 28, lines 41-67 and col. 29, lines 1-8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Bernier et al. in the combination of Hunt, Herron, Pasemann and Nigawara in order to maintain accurate validation of input data over a wide range of turbine operating condition which include the entire range of steady state operating condition (Bernier et al., col. 6, lines 4-44).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt in view of Herron et al. and Pasemann, as applied to claims 1 and 12 above, and further in view of Lin (U.S. Pat. No. 5532941).

The combination of Hunt, Herron and Pasemann teaches a method and system that includes the subject matter discussed above. Hunt, Herron et al. and Pasemann do not mention explicitly: at least one of the input data and the verified performance data are standardized for each of the plurality of turbines.

Lin discloses an inter-laboratory performance monitoring system, and teaches a technique of standardizing input data for each of the plurality of lab instruments (col. 30, lines 60-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Lin in the combination of Hunt, Herron and Pasemann in order include the machine to machine variability in the data processing and analysis (Lin, col. 1, lines 64-67 and col. 2, lines 1-5).

9. Claims 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt in view of Herron et al., Pasemann, as applied to claims 1 and 16 above, and further in view of Loftin et al. (U.S. Pat. No. 5311422)

The combination of Hunt, Herron and Pasemann teaches a method and system that includes the subject matter discussed above. Hunt, Herron et al. and Pasemann do not mention explicitly: said step of processing the input data to generate verified performance data includes stopping the processing once input data or processed data, which is obtained from the input data, is determined to be invalid; and wherein generating a collection of stored data includes displaying; at least one of the input data and the verified performance data that is obtained prior to the stopping

Loftin et al. teach a technique for error checking of processed data, in which the error checking stops once the processed data is determined to be invalid (col. 33, lines 11-15).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Loftin et al. in the combination of Hunt, Herron and Pasemann in order to make the input data validation process more efficient and intelligent (Loftin et al., Abstract). It is also obvious to one having ordinary skill in the art at the time the invention was made that once the process of input data validation stops, the displaying of the input data and/or the verified performance data, taught by Hunt, Herron and Pasemann, should stop consequently, and only the data that is obtained prior to the stopping will be displayed, because after the stopping, there will be no said verified performance data to be generated.

Allowable Subject Matter

10. Claims 10, 15 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 22, 23 and 24 are allowed.

Reasons for Allowance

12. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claim 10 is the claimed method step of processing the input data to generate verified performance data which further includes calculating an average daily performance of the turbine. It is this step found in the claim, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes this claim allowable over the prior art.

The primary reason for the allowance of claims 15 and 20 is the claimed method step of processing the input data to generate verified performance data which includes: determining an invalidity of a first utilized calculation; determining the validity of a second utilized calculation; and using the second calculation in substitution for the first utilized calculation to generate the verified performance data. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 22 is the claimed method step of processing the input data to generate verified performance data which further includes: determining an invalidity of a first utilized calculation; determining the validity of a second utilized calculation; and using the second calculation in substitution for the first utilized calculation to generate the verified performance data. It is this step found in the claim, as it is claimed in the combination, that have not been found, taught or suggested by the prior art of record which make this claim allowable over the prior art.

The primary reason for the allowance of claims 23 and 24 is the inclusion of the limitation of the processing portion comprising determining an invalidity of a first utilized

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calculation, determining the validity of a second utilized calculation, and wherein the calculation engine uses the second calculation in substitution for the first utilized calculation to generate the verified performance data. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (703)305-3467. The examiner can normally be reached on 7:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703)308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Xiuqin Sun
Examiner
Art Unit 2863



XS

August 2, 2003



John Barlow
Supervisory Patent Examiner
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